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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,873	12/29/2005	Josef Lutz	AT03 0037 US1	6752

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EXAMINER	
LE, HUYEN D	

ART UNIT	PAPER NUMBER
2614	

NOTIFICATION DATE	DELIVERY MODE
07/23/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/562,873	LUTZ, JOSEF	
	Examiner	Art Unit	
	HUYEN D. LE	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 May 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *24-28* is/are allowed.

6)☒ Claim(s) *1-23,29 and 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/5/10*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 7-23, 29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Croft, III et al. (US 6,201,874).

Regarding claims 1, 7, 9, 13, 18, 19 and 23, Croft et al. teaches an audio speaker device comprising a chamber that comprises chamber walls and at least one medium opening for the audio medium stream (figures 1, 2, 3, 15, 16A, 16B, 17, 18A), a diaphragm (28, 52, 152, 162, 166, 172, 182) to generate the audio medium stream, an audio driver circuit (figures 1, 18A) responsive to electrical drive signals corresponding to the audio data for driving the diaphragm to impose a deformation on the diaphragm via mechanical tension to generate audible sound corresponding to the audio data in an active operating state of the device (col. 9, lines 6-23). As shown in the drawings, the diaphragm is arranged substantially untensioned in the chamber between the chamber walls in an inactive operating state of the device (also see col. 4, lines 46-59).

Regarding claims 2 and 8, Croft et al. teaches the drive comprising the electrodes that are arranged on the chamber walls and a control signal source, and containing an electromechanical

drive element as claimed (figures 1, 2, 3, col. 3, lines 52-67 through col. 4, lines 1-10, and col. 5, lines 3-16).

Regarding claim 10, Croft et al. shows the chamber comprising at least two medium openings as claimed (figure 1).

Regarding claim 11, Croft et al. shows the diaphragm having an at least substantially constant thickness as claimed (figures 1, 5).

Regarding claims 9, 12 and 14, Croft et al. teaches the device having the chamber that is of substantially cuboidal construction and comprises two end walls lying opposite one another, the diaphragm being fixed with two opposing end regions to the end walls and the drive as claimed (figures 1, 2, 15, 16A, and col. 4, lines 55-59).

Regarding claims 15 and 16, Croft et al. shows the diaphragm being fixed with one end region and an opposite end region and comprising a transition portion as claimed (figures 1, 2, 15, 16A, and col. 4, lines 55-59).

Regarding claim 17, Croft et al. teaches the medium openings provided at both ends of the chamber as claimed (figures 1, 2, 15, 16A, 16B).

Regarding claim 20, as broadly claimed, the loudspeaker device of Croft et al. is provided as pump device for the medium stream when the diaphragm is in an active state (figure 1 and see col. 3, lines 63-67 through col. 4, lines 1-10, and col. 9, lines 6-23).

Regarding claim 21, as broadly claimed, Croft et al. shows a number of chambers provided in the device as claimed (figure 13).

Regarding claim 22, Croft et al. teaches the insulating layer as claimed (col. 5, lines 33-39).

Regarding claim 29, as broadly claimed, Croft et al. shows the diaphragm that is configured in a slacked amorphous configuration in its untensioned inactive state (figures 7, 8, 18A, 19A, 19B and see col. 9, lines 1-3).

Regarding claim 30, as broadly claimed, Croft et al. shows the diaphragm that is substantially devoid of peaks and valleys in its untensioned inactive state (19A, 19B and see col. 9, lines 1-3).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3-6, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Croft, III et al. (US 6,201,874).

Regarding claims 3-6, Croft et al. teaches the diaphragm comprising a conductive layer for the electrostatic transducer. Croft et al. does not specifically teach the diaphragm comprising a metal foil or piezoelectric material as claimed in claims 3-6. However, Croft et al. does not restrict any material for the conductive layer, and providing a metal foil made of dielectric material or the piezoelectric material for the diaphragm is well known in the art.

Therefore, it would have been obvious to one skilled in the art to provide any conductive material such as the metal foil made of dielectric material, or the piezoelectric material and the

electrode for the diaphragm of Croft et al. for an alternate choice and depending on the desired frequency characteristics.

Regarding claims 29 and 30, as interpreted in a different manner, Croft et al. does not specifically disclose that the diaphragm is configured in a slacked amorphous configuration or substantially devoid of peaks and valleys in its untensioned inactive state as claimed. However, Croft does estimate different configurations for the diaphragm (figures 14, 15, 16A, 16B, 17, 18A, 18B, 18C, 19A, 19B).

Therefore, it would have been obvious to one skilled in the art to provide any diaphragm for the Croft system such as a diaphragm that is configured in a slacked amorphous configuration or that is substantially devoid of peaks and valleys in its untensioned inactive state for the desired frequency characteristics.

Allowable Subject Matter

5. Claims 24-28 have been allowed.

Response to Arguments

6. Applicant's arguments filed 05/05/10 have been fully considered but they are not persuasive.

Responding to the arguments about the 103 rejections of claims 3-6 over Croft, III et al. , the Applicant should note that Croft et al. does teach and show a plurality of different diaphragm configurations in its untensioned inactive state or in its natural state for the system (figures 1, 2,7, 8, 14, 15, 16A, 16B, 17, 18A, 18B, 18C, 19A and 19B) for selected resonance bandwidths,

Croft does not restrict to the diaphragm in any configuration as argued. As mentioned in the Office Action, since Croft et al. does not restrict any material for the conductive layer, and providing a metal foil made of dielectric material or the piezoelectric material for the diaphragm in the electrostatic transducer is well known in the art.

Therefore, it would have been obvious to one skilled in the art to provide any conductive material such as the metal foil made of dielectric material, or the piezoelectric material and the electrode for the diaphragm of Croft et al. for an alternate choice and the same desired purpose of providing a conductive material to the system.

Responding to the arguments about the 102 rejection, the Applicant should note that Croft does teach a diaphragm (see the diaphragms in the drawings) to generate the audio medium stream and the diaphragm being arranged substantially untensioned in the chamber as claimed in claim 1 (see the drawings and col. 4, lines 46-59), and the drive is designed to impose a cyclic deformation in the form of a traveling wave on the diaphragm as claimed in claim 14 when the speaker is operated (see the shape or the configuration of the diaphragm in figures 1, 2).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (571) 272-7502. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CURTIS KUNTZ can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUYEN D. LE/
Primary Examiner, Art Unit 2614

HL
July 18, 2010